

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A switchable coupler ~~in which~~ comprising:-
a first optical waveguide ~~defines~~ defining
an inlet port for a first unpolarised light input and
a first outlet port, and
a second optical waveguide ~~defines~~ defining
an inlet port for a second unpolarised light input and
a second outlet port,
a polarisation splitter device is positioned between ~~the~~ said waveguides to
split ~~the~~ said first unpolarised light input and ~~the~~ said second unpolarised
light input into respective refracted and reflected polarised components,
the waveguides ~~are being~~ arranged to transmit
~~the~~ said refracted and reflected polarised components of ~~the~~ said
first light input by total internal reflection in the direction of ~~the~~ said
first outlet port, and
the refracted and reflected polarised components of ~~the~~ said
second light input by total internal reflection in the direction of ~~the~~
said second outlet port,
a first electro-optical switch is positioned in the paths of ~~the~~ said refracted
and reflected polarised components of ~~the~~ said first light input,

~~the said~~ first electro-optical switch ~~is being~~ operable to recombine ~~the said~~ refracted and reflected polarised components of ~~the said~~ first light input and to switch these combined components towards ~~the said~~ second outlet port,

a second electro-optical switch ~~is positioned~~ in the paths of ~~the said~~ refracted and reflected polarised components of ~~the said~~ second light input, and

~~the said~~ second electro-optical switch ~~is being~~ operable to recombine ~~the said~~ refracted and reflected polarised components of ~~the said~~ second light input and to switch these combined components to ~~the said~~ first outlet port.

2. (currently amended) A switchable coupler, ~~according to~~ as in Claim 1, in which ~~the said~~ polarisation splitter device includes liquid crystal positioned between ~~the said~~ waveguides.
3. (currently amended) A switchable coupler, ~~according to~~ as in Claim 2, in which ~~the said~~ liquid crystal material defines two separate cells, one of said liquid crystal cells serving to split ~~the said~~ first unpolarised light input, and the other of said liquid crystal cell serving to split ~~the said~~ second unpolarised light input.

4. (currently amended) A switchable coupler, ~~according to any preceding claim~~ as in Claim 1, in which ~~the, or each,~~ at least one of said electro-optical ~~switches~~ includes liquid crystal positioned between ~~the~~ said waveguides, and an electric field device is provided to generate an electric field across ~~the~~ said liquid crystal to operate the electro-optical switch, ~~or switches.~~
5. (currently amended) A switchable coupler, ~~according to~~ as in Claim 4, in which ~~the~~ said liquid crystal material defines two separate cells, and one of these liquid crystal cells ~~forming~~ forms part of each said electro-optical switch.
6. (currently amended) A method of coupling first and second inputs of unpolarised light comprising:-
 - splitting ~~the~~ said first and second inputs into respective refracted and reflected polarised components,
 - transmitting ~~the~~ said refracted and reflected components of ~~the~~ said first input to a first electro-optical switch operable to recombine ~~the~~ said refracted and reflected components of ~~the~~ said first input and to switch the recombined output from a first outlet to a second outlet,

transmitting ~~the~~said refracted and reflected components of the said second input to a second electro-optical switch operable to recombine ~~the~~said refracted and reflected components of ~~the~~said second input and to switch ~~the~~said recombined output from the said second outlet to ~~the~~said first outlet, and
selecting the operation of ~~the~~said first and second electro-optical switches to couple ~~the~~said first and second inputs into either the ~~first outlet or the second outlet.~~ an outlet from the group comprising said first outlet and said second outlet.